

III.B.2.N.a. Temperate cold-deciduous shrubland

III.B.2.N.a.23. AMELANCHIER UTAHENSIS SHRUBLAND ALLIANCE

Utah Serviceberry Shrubland Alliance

AMELANCHIER UTAHENSIS SHRUBLAND

Utah Serviceberry Shrubland

ELEMENT CONCEPT

GLOBAL SUMMARY: This mountain shrubland association occurs in the foothills, mountains and mesas in north-central Utah, the Colorado Plateau and Great Basin of the western U.S. Stands occur on moderate slopes on all aspects. It is found on relatively warm southern aspects in the Wasatch Mountains, but also occurs on northern aspects at lower elevations and at more southern latitudes. Substrates are moderately deep, rocky loams and clays. The vegetation is characterized by a sparse to moderately dense tall-shrub layer (15-60% cover) dominated by the cold-deciduous shrub, *Amelanchier utahensis*. *Symphoricarpos oreophilus* often forms a short-shrub layer other shrub associates may include low cover of *Acer grandidentatum*, *Chrysothamnus viscidiflorus*, *Mahonia repens*, *Purshia tridentata*, and *Rosa woodsii*. *Quercus gambelii* may also be present, but it is always poorly represented (<5%). The sparse to moderately dense herbaceous layer is a mixture of perennial graminoids and forbs. Introduced species such as *Agropyron cristatum* and *Bromus tectorum* are common in disturbed stands.

ENVIRONMENTAL DESCRIPTION

USFWS Wetland System: Not Applicable

Zion National Park Environment: Elevation ranges between 6500-8000 feet for this association. Slopes are gentle or steep with various aspects. Soil texture is clayey or fine-grained on cinder cone formations, such as Firepit Knoll. The *Amelanchier utahensis* stands on the northern boundary of the park has rich loamy soils.

Global Environment: This montane shrubland association occurs in the foothills, mountains and mesas in north-central Utah, the Colorado Plateau and Great Basin of the western U.S. Elevation ranges from 1980-2440 m (6500-8000 feet). Stands occur on moderate slopes on all aspects. It is found on relatively warm southern aspects in the Wasatch Mountains (Yake and Brotherson 1979), but also occurs on northern aspects at lower elevations and more southern latitudes. Substrates are moderately deep, rocky loams and clays.

VEGETATION DESCRIPTION

Zion National Park Vegetation: *Amelanchier utahensis* dominates the shrub layer with 15-40% cover. Other shrubs are absent or insignificant in sampled plots. The high-elevation stand on the northern boundary of the park is more mesic, and shrubs are nearly 5 m in height. *Acer grandidentatum* is present as well as other mesic herbaceous species, such as *Mertensia arizonica* and *Poa pratensis*. This area is also subject to historical and current livestock grazing. The other documented sites have drier conditions. *Amelanchier utahensis* has a shorter stature and is more widely spaced. *Bromus tectorum* is abundant in the understory, and few other species are present. In observed locations in Cave Valley and Lee Valley, *Artemisia tridentata* is a component of this association.

Global Vegetation: This vegetation has a sparse to moderately dense (15-60% cover) tall-shrub layer dominated by *Amelanchier utahensis*. *Symphoricarpos oreophilus* often forms a short-shrub layer. Other shrubs may include *Acer grandidentatum*, *Chrysothamnus viscidiflorus*, *Mahonia repens*, *Purshia tridentata*, and *Rosa woodsii*. *Quercus gambelii* may also be present, but it is always poorly represented (<5% cover). The sparse to moderate herbaceous layer is a mixture of perennial graminoids and forbs. Herbaceous species include *Bromus carinatus*, *Koeleria macrantha*, *Achnatherum nelsonii* ssp. *dorei*, *Balsamorhiza sagittata*, *Chenopodium fremontii*, *Machaeranthera canescens*, and species of *Astragalus*, *Eriogonum*, *Mertensia*, and *Penstemon* (Yake and Brotherson 1979). Introduced species such as *Agropyron cristatum* and *Bromus tectorum* are common in disturbed stands.

Global Dynamics: Fire is important in maintaining the montane shrublands, as burning eliminates *Juniperus osteosperma* and *Pinus edulis* trees and other less fire-tolerant species. *Amelanchier utahensis* will sprout from the root crown after above-ground parts of the plant are killed by fire (Carmichael et al. 1978). It may be slightly harmed by fire, depending on moisture conditions, but is considered to be fire-tolerant and will persist or increase after burning (Carmichael et al. 1978, Crane 1982).

MOST ABUNDANT SPECIES

Zion National Park

Stratum

TALL SHRUB

Species

Amelanchier utahensis

Global

Stratum

TALL SHRUB

SHORT SHRUB

Species

Amelanchier utahensis

Symphoricarpos oreophilus

CHARACTERISTIC SPECIES

Zion National Park

Stratum

TALL SHRUB

Species

Amelanchier utahensis, *Artemisia tridentata*

Global

Stratum

TALL SHRUB

Species

Amelanchier utahensis

GLOBAL SIMILAR ASSOCIATIONS:

Information not available.

GLOBAL STATUS AND CLASSIFICATION COMMENTS

Global Conservation Status Rank: G4.

Global Comments: This association is not well known. More survey work and classification work are needed to further define this type.

ELEMENT DISTRIBUTION

Zion National Park Range: This association occurs in two documented sites on the western side of Firepit Knoll and ridge north of Camp Creek and was observed in Cave Valley and Lee Valley.

Global Range: This shrubland association occurs in the foothills and mountain areas in north-central Utah, Colorado Plateau and Great Basin of the western U.S.

Nations: US

States/Provinces: NV UT

ELEMENT SOURCES

Zion National Park Inventory Notes: Plots: RH51, 65, 117. In Pine Springs Wash, there was a *Quercus turbinella* and *Amelanchier utahensis* mixture (not colluvial). AMUT was found in small stands in Lee Valley and Cave Valley. It was in a mosaic with *Artemisia tridentata*.

Classification Confidence: 2 **Identifier:** CEG001067

REFERENCES: Bourgeron and Engelking 1994, Carmichael et al. 1978, Crane 1982, Driscoll et al. 1984, Eddleman and Jaindl 1994, Yake and Brotherson 1979